# IT Council Backgrounder
# Enterprise Applications
# Management of Messaging Infrastructure

## BACKGROUND

E-mail is a mission critical tool for communication that was installed, purchased and maintained on a department-by-department basis. Like so many of state applications that were developed, what started as a good idea for a small implementation grew to proportions that are costly to maintain and at risk for failure and downtime.

In the 1980's, e-mail was just beginning to gain acceptance and use in state government on a localized basis. The advent of Wide Area Networks and, more importantly, the Internet brought the ability to communicate and share files instantaneously to anyone in the world. Each agency began to develop their own e-mail infrastructure in a very small manner adding users incrementally until it has become the legally preferred method of communication among users. This has led to an ever growing number of servers and server space needed, and personnel needed to maintain each system. E-mail has also become the method of choice for citizens to communicate with government increasing demands on the existing e-mail infrastructure.

With the growth outlined above these systems are at risk for failure and long downtimes. Several state departments[1] have experienced downtime due to viral infection that could not be stopped expeditiously. Several departments were without e-mail for several days as a virus (love bug) was eradicated from its e-mail systems. The loss in productivity and the need for staff at each department to eradicate this virus cost thousands of dollars. Hardware failure and lack of redundant systems is another area that can cause downtime and lost productivity. As the departments have developed their own e-mail systems they often either did not have the funds to create redundant systems, or over-looked this necessity. This can result in lost mail and lost productivity.

E-mail systems that are run locally at each department require a management structure such that IT staff are needed and managed usually out of an IT shop local to the department. Anytime there is an upgrade in software needed to operating system, e-mail server, and other infrastructure, staff at each department need to do the upgrades resulting in a very inefficient use of staff and systems.

Experience in large organizations and other states supports messaging consolidation as an appropriate strategy for improving security and management and reducing total costs of operations:

- Oracle Corporation reported that consolidating their 97 e-mail systems world wide to a single, unified e-mail system, saved the company $13 million in its first year and $11 million in subsequent years.[2]

- State of Utah - A centrally administered e-mail service administered by ITS [Information Technology Services] was a recommendation for service consolidation from the IT Process group meetings sponsored by the Governor and the CIO, and subsequently presented to the Governor as a consensus "do it now" implementation. The principle deliverable will be a consolidated e-mail service that will reduce overall e-mail administrative and infrastructure costs to the State.[3]

- State of Indiana – "migrate all state agencies under a single e-mail system. The primary benefits of a consolidated statewide e-mail system will be lower costs, improved service and tighter security. Additional benefits expected from the e-mail consolidation include common calendars and scheduling, increased productivity, remote access to e-mail via the Internet, and more robust virus protection."[4]

## MOST SIGNIFICANT IMPLEMENTATION RISKS

- Different retention policies
- Differing remote access methods and policy
- Differing mailbox sizes
- Application integration with e-mail (e.g., PASS application at FTB)
- Necessity of upgrades to related technologies
- Migration must happen without interruption of existing e-mail functioning

## FISCAL IMPLICATIONS

Cost / efficiency Domains:

- Hardware – Utilization of existing hardware, and additional hardware
- Software – Enterprise licensing of e-mail server software and server Operating System (OS)
- Infrastructure – anti-SPAM, Virus protection, network and intrusion detection
- Migration
- Network infrastructure – Do we need increased capacity at the data center and departments to accommodate consolidation?
- Active directory implementation – What about departments that do not have AD in place?
- Potential for redirection of positions for messaging infrastructure support staff
- Potential cost for system upgrade for departments that are running versions of Windows and Office that are out of date. Some departments are still running Windows 98 and have systems that cannot be upgraded to run more current versions of Windows.
- Reduced administration.
- Possible increased security and lower potential for virus / spam attack.

In October 2003 the Department of Finance conducted a survey of state e-mail systems on a departmental basis. The survey included information about the number of servers, mailbox size, number of users supported, virus detection software, and various other factors. This survey

showed the wide variety of e-mail systems that support the state, the cost of running those services, and the complexity. There are approximately 100 surveys that were returned to the DOF. Analysis of these surveys shows that costs vary widely among agencies with on-going costs ranging from approximately $12.00 per month, per employee to a high of $18.00. With an estimated number of 145,000 client mail boxes across state service, the total cost is estimated to be at least $20,880,000 per year. This figure is consistent with analysis of other states email infrastructure costs.

Of 145,000 e-mail boxes, 100,000 are using Microsoft Exchange, 30,000 use Lotus Notes, and 10-15,000 use GroupWise.[5] Studies from other states (Wisconsin[6], Indiana, Utah, and Texas) show that savings and efficiencies can spread across multiple domains (staffing, hardware / software upgrade, licensing, security, etc.) depending on how centralization is accomplished and how far reaching. According to the MetaGroup, in evaluation of the State of Missouri's email consolidation, the savings from consolidation are from:

- Server consolidation
- Savings on migration planning, testing, deployment and training
- Procurement and maintenance
- Reduction in system complexity

The state of Ohio[7] (59,000 email clients) has estimated their consolidation savings as follows:

- Reduce servers from 460 to 20
- Reduce email administrators from 44 – 20
- Reduce annual cost from $11 million to $2.1 million

**RECOMMENDATION**

Given the complexities and size of California's email infrastructure, there is a great deal of potential for significant cost savings from consolidation. The following steps should be considered for moving forward with consolidation.

- Adopt a statewide policy to consolidate the acquisition, technical management and ongoing licensing of messaging systems for the Executive Branch (*see* Draft IT Council Policy below).
- Immediately form one or more working groups (comprised of various e-mail administrators and analysts) to develop the implementation strategy in detail.
- Choose up to three departments as a pilot / proof of concept. Pilot would look at all aspects of migration and detailed cost analysis and recommendation, and develop migration strategy for a possible broad scale implementation.
- Evaluate pilot and make recommendation for potential migration of other departments.

**DRAFT IT Council Policy Statement:**

## Responsibility for Messaging Systems

### Scope of Policy Statement

This IT Council Policy Statement addresses the acquisition, management and transition of responsibility for "messaging systems" used by state agencies. "Messaging systems" refers to the server, network, security and application infrastructures that support messaging services (commonly referred to as e-mail). This statement does not address the issue of how many or what type of messaging systems should be adopted. Instead, the scope is limited to the question of how best to acquire, manage and transition messaging systems that have already been adopted for use by agencies into statewide managed systems.

The provisions of this Policy Statement shall not apply to the legislative and judicial branches of government, nor shall it apply to the constitutional officers of this state. However, these branches of government and the constitutional officers are respectfully requested to consider adopting this policy.

### Responsibility for Messaging Systems

Messaging systems are common technologies within the Executive Branch, for which the acquisition, technical management and ongoing licensing will be consolidated for reasons of cost-effectiveness, improved manageability and security. Day-to-day administration of a messaging application (e.g., maintenance of e-mail accounts), which is not a common technology, will be the responsibility of individual agencies.

### Implementation of Policy

The State CIO shall designate one or more agencies to assume responsibility for consolidated acquisition, technical management and ongoing licensing of messaging systems for the Executive Branch subject to such conditions and oversight as the State CIO may require. The realignment of responsibility for messaging systems shall be complete by July 1, 2005.

### ENDNOTES

[1] Franchise Tax Board was down for four days as a result of the "Love Bug" virus.
[2] Oracle, *Data Center Consolidation*, November 12, 2003, page3.
[3] http://path.utah.gov/enterpriseprojects/E-mailCharter8.28.02.DOC
[4] http://www.in.gov/itoc/html_site/Policies/ITP_03-3CentEmailPolicy.doc
[5] The estimated number of mailboxes is from a study done by Microsoft and HHSDC.
[6] State of Wisconsin, Email Consolidation Working Group – Recommendations for the Consolidated Email Services
[7] http://das.ohio.gov/ITGD/ITPlanningWorkshop/EnterpriseEmailPresentation.pdf